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INITIAL ASSESSMENTS AND STABILIZATION EVALUATIONS OF RCRA FACILITIES

PRATT & WHITNEY AIRCRAFT GROUP
~~COLT STREET FACILITY~~

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Pratt & Whitney Aircraft Group
CTD990672081

Facility Summary

Pratt & Whitney Aircraft operates a large complex in East Hartford, Connecticut, which includes three sites. The Main Street facility will be discussed in this report. The Main Street facility, established in 1931, designs, manufactures, assembles and tests aircraft jet engines and engine components. Pratt & Whitney Aircraft Main Street also serves as a central collection point for most of the wastes generated at Pratt & Whitney facilities located within Connecticut, Maine and New York. The large complex is situated on over 1,000 acres of property, which includes administrative office space, manufacturing areas, research & development areas, waste management areas, a boiler plant and an airport associated with aircraft support facilities. The site is situated in an industrial urban area, approximately one mile east of the Connecticut River. The facility discharges wastewaters into the city sewer and has NPDES permits for eight point sources. Six point sources flow to Willow Brook and two point sources discharge to Pewter Pot Brook. Both Willow Brook and Pewter Pot Brook feed into the Connecticut River. The major industrial operations performed at the facility include general machining; stripping operations; vapor degreasing; reclamation of waste solvents and spent oils; plasma spray; electroplating; and wastewater treatment, including chrome reduction, pH adjustment and soluble oil de-emulsifying. There are no public or private water supply wells located within a 0.25 mile radius of the permitted units where hazardous wastes are managed or treated. More than 100 monitoring wells have been installed at the facility in an attempt to assess any groundwater impact from historical operations and SWMUs (References 1, 3, 5, 19, 24, 27, 41, 43, 47 and 52).

Hazardous wastes are generated at Pratt & Whitney Aircraft, Main Street, by fabricating, cleaning, finishing, coating, testing and research operations. The hazardous wastes are typically water solutions, both concentrated and dilute, containing acids, alkalies and heavy metals. There are also chrome and cyanide plating wastes; metal hydroxide waste; waste paint and paint solids; laboratory wastes; spent halogenated and non-halogenated solvents; and associated still bottoms generated from production operations and reclamation operations. The hazardous wastes received from other Pratt & Whitney sites are all similar or identical to those generated at the Main Street facility. The off-site wastes are often combined with similar on-site wastes for storage. Until June 1993, the wastes were managed in eleven storage tanks (eight aboveground and three underground) and five container storage areas, all located within an area known as the Concentrated Waste Treatment Plant (CWTP; AOC 5). In June 1993, the new Concentrated Waste Storage and Treatment Facility (AOC 4) became operational, replacing most of the former waste tanks and container storage areas. One waste underground storage tank (UST) was still in use for hazardous waste oil derived from the wastewater soluble oil treatment process. Wastes generated on-site are also managed at other locations within the facility in containers and tanks for less than 90 days (References 5, 19, 20, 35, 36, 42 and 52).

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A liquid injection incinerator for the burning of hazardous wastes was constructed in 1981. Four different waste types were proposed for treatment in the unit. They were blend oil, cyanides, Zyglo solution (contains oil, emulsifier, eocene dye and water), and a wax/solvent mixture. The unit was never fully operational since it had never met CTDEP particulate emissions performance criteria. Outside of the allowed trial burns to determine operating parameters and compliance with CTDEP regulatory standards, the unit never treated any hazardous wastes. Four sets of trial burns were conducted at the unit between 1982 and 1984. In all of the trial burns, excessive particulate emissions and poor destruction efficiencies were indicated. The facility decided to close the unit when faced with a series of extensive modifications that would be required to bring the unit into regulatory compliance. The closure certification for the unit was dated October 28, 1991. (References 5, 7, 8, 9, 10, 11, 12, 13, 15, 16, 28, 34 and 47).

Seventeen Areas of Concern (AOCs) were identified at Pratt & Whitney Aircraft. These include:

1. Satellite Accumulation Areas
2. Less-Than-90-Day Hazardous Waste Storage Areas
    - A. Main Oil House
    - B. New Oil House
    - C. X Test Oil House
    - D. Container Storage Building at Rentschler Airport
    - E. Rolloff Staging Area
    - F. Experimental Test Oil House
3. Reclamation Area
4. Centralized Waste Storage and Transfer Facility
5. Concentrated Waste Treatment Plant
    - A. Concentrated Waste Treatment Building (CWTP-1)
    - B. Barrel Building/Container and Tank Storage Area (CWTP-2)
    - C. Tank Farm USTs (CWTP-3)
    - D. Drum/Transporter Storage Pad (CWTP-4)
    - E. Waste Storage Building (CWTP-5)
    - F. Hazardous Waste Storage Building (CWTP-6)
    - G. Transporter Tanks
6. Dilute Wastewater Pre-Treatment Plant
7. Soluble Oil Collection Sumps
8. Concentrated Waste Sludge Impoundments
9. Storm Drainage System

10. Tank Farms
    - A. North Tank Farm
    - B. South Tank Farm
    - C. Rentschler Field Tank Farm
    - D. Power House Tank Farm
    - E. Experimental Test Tank Farm
    - F. Executive Garage Tank Farm
    - G. Main Oil House Tank Farm
11. Contaminated Soil Piles
12. Plasma Spray Booths
13. Dust Collectors
14. Trash Incinerators
15. Waste Wax/Solvent Tank
16. Fire Training Areas
17. Former Oil House

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AOC Number: 1

AOC Name: Satellite Accumulation Areas

AOC Status: Low potential of release

AOC Description:

There are greater than 200 Satellite Accumulation Areas (SAAs) located in process areas such as the x-ray shop, paint shop, degreasing area, deburring area and rubber maskant process area. The typical SAA at the facility consists of two 20-gallon fiber type satellite containers, one for hazardous waste rags/debris with solvents and one for non-hazardous waste oily debris. A few SAAs have a third container for bulk waste liquid solvents. According to the facility, up to 55 gallons of hazardous waste or one quart of acutely hazardous waste are allowed to accumulate at or near the point of generation providing that the containers are in good condition; the waste is compatible with the container; the container remains closed except when waste is being added or removed; the container is clearly marked "Hazardous Waste" and the contents are clearly identified; and the accumulation dates are properly labeled. In general, once these quantities of waste are met, the containers are moved to the Centralized Waste Storage and Transfer Facility (AOC 4) within 72 hours. (References 39 and 52)

AOC Start-Up Date:

No information regarding the start-up dates of the SAAs was found in the available file material.

AOC Closure Date:

The SAAs are currently operational (Reference 52).

Waste Managed at AOC:

Rags, debris and absorbents contaminated with hazardous wastes, as well as spent solvents are managed by the SAAs (Reference 52).

Release Controls:

The fiber containers that accumulate the hazardous and non-hazardous waste solids are placed inside metal containers. The metal containers are similar to general type trash cans with swinging openings in the lids (Reference 52).

Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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AOC Number: 2

AOC Name: Less-Than-90-Day Hazardous Waste Storage Areas

A. Main Oil House
B. New Oil House
C. X Test Oil House
D. Container Storage Building at Rentschler Airport
E. Rolloff Staging Area
F. Experimental Test Oil House

AOC Status: Low potential of release

AOC Description:

Hazardous wastes generated at the Pratt & Whitney Aircraft Main Street site are managed in tanks and containers for less-than-90-days throughout the facility. The following six Less-Than-90-Day Hazardous Waste Storage Areas were identified in the available file material.

AOC 2A:
The Main Oil House Less-Than-90-Day Storage Area (AOC 2A) consists of a drum accumulation area in the main process room. There is also one less-than-90-day 5,000-gallon waste tank located at the unit. The facility began using the tank when the distillation process was discontinued in the Reclamation Area (AOC 3). (References 20, 46 and 47).

AOC 2B:
The New Oil House Less-Than-90-Day Storage Area (AOC 2B) replaced the Former Oil House (AOC 17). There are six aboveground 800-gallon tanks in the unit used for blending and processing of new, reclaimed and/or used oils. The oils are blended to specification and are stored in drums or USTs. Each drum is sampled for analysis of volatile organic constituents (VOCs), PCBs, halogens, water content, and viscosity. Waste oils that cannot be reclaimed are classified as either B-1 (non-chlorinated, less than 1,000 ppm chlorine, and non-PCB-containing, high flash oil); B-2 (chlorine-containing, greater than 1,000 ppm chlorine, but non-solvent-containing); or B-3 (chlorine-containing due to cross-contamination with a solvent). These oils are transferred to the Tank Farm USTs (CWTP-3) (AOC 5C). A waste 1,1,1-trichloroethane less-than-90-day tank was put in the unit, according to a CTDEP Inspection conducted in May 1992 (References 41, 47 and 52).

AOC 2C:
The X Test Oil House Less-Than-90-Day Storage Area (AOC 2C) is located in a building at the Engine and Experimental Testing Facility. The base of the unit is constructed of concrete (Reference 52).

AOC 2D:
The Container Storage Building at Rentschler Airport Less-Than-90-Day Storage Area (AOC 2D) is located in a small metal building with a concrete floor and epoxy coating (References 46, 47 and 52).

AOC 2E:
The Rolloff Staging Area Less-Than-90-Day Storage Area (AOC 2E) stores solid debris generated from remediation projects. The storage area is in the vicinity of the Concentrated Waste Treatment Plant (AOC 5) and has an asphalt base. According to a CTDEP Inspection conducted in February/March 1994, the base was cracked and split in many areas. There were sixteen 20-cubic-yard or 30-cubic-yard rolloffs observed to be in storage (References 47 and 52).

AOC 2F:
The Experimental Test Oil House Less-Than-90-Day Storage Area (AOC 2F) is located in a small locked building with a concrete base (Reference 47).

AOC Start-Up Date:

The start-up date of the less-than-90-day storage areas in the New Oil House (AOC 2B) and Rolloff Staging Area (AOC 2E) was approximately 1991. The start-up date of the less-than-90-day storage area in the X Test Oil House (AOC 2C) was approximately 1993.

No information regarding the start-up date of the less-than-90-day storage areas in the Main Oil House (AOC 2A), the Container Storage Building at Rentschler Airport (AOC 2D) or the Experimental Test Oil House (AOC 2F) was found in the available file material (References 47 and 52).

AOC Closure Date:

The units are currently operational (References 47 and 52).

Waste Managed at AOC:

AOC 2A:
Waste oils, waste solvents and bulk solids from remediation are managed in the Main Oil House Less-Than-90-Day Storage Area (AOC 2A). One 5,000-gallon tank accumulates waste 1,1,1-trichloroethane (References 46 and 47).

AOC 2B:
The New Oil House Less-Than-90-Day Storage Area (AOC 2B) receives waste drums of chlorinated oils, low flash petroleum distillates, 1,1,1-trichloroethane-contaminated oils and other petroleum-based materials (References 41 and 47).

AOC 2C:
According to a CTDEP Inspection conducted in February/March 1994, 55-gallon drums of hazardous waste aerosol cans, non-hazardous waste engine oil and non-hazardous waste oil rags were stored in the X Test Oil House Less-Than-90-Day Storage Area (AOC 2C). There was also a 55-gallon drum for draining used oil filters, which were managed as non-hazardous waste. Lab pack waste and numerous one-gallon cans of paint were also stored at the unit (Reference 52).

AOC 2D:
Hazardous and non-hazardous waste oils, waste jet fuels and waste solvents (D001 stoddard solvent), that are generated in the aircraft support shop, are managed in drums at the Container Storage Building at Rentschler Airport Less-Than-90-Day Storage Area (AOC 2D) (References 46, 47 and 52).

AOC 2E:
Soil and construction debris (hazardous waste codes F001, F002, F005, D006, D007, D008) from construction projects are stored in the Rolloff Staging Area Less-Than-90-Day Storage Area (AOC 2E) (References 47 and 52).

AOC 2F:
Drums of waste oils and solvents are managed in the Experimental Test Oil House Less-Than-90-Day Storage Area (AOC 2F) (References 46 and 47).

Release Controls:

The less-than-90-day storage areas in the Main Oil House (AOC 2A), the Container Storage Building at Rentschler Airport (AOC 2D) and the Experimental Test Oil House (AOC 2F) have an epoxy concrete base with secondary containment. The base of the less-than-90-day storage area in the X Test Oil House (AOC 2C) is constructed of concrete and that of the

Rolloff Staging Area (AOC 2E) is constructed of asphalt, with no secondary containment. No information regarding release controls at the less-than-90-day storage area in the New Oil House (AOC 2B) was found in the available file material (References 47 and 52).

Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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AOC Number: 3

AOC Name: Reclamation Area

AOC Status: Low potential of release

AOC Description:

The solvent Reclamation Area was located inside the main factory building. The unit was used for the distillation of spent solvents generated primarily from degreasing operations on-site. Off-site wastes were also brought to the unit for distillation. The hazardous wastes were primarily received in portable Transporter Tanks (AOC 5G), but occasionally in 55-gallon drums. The wastes were either transferred into one of the still feed tanks or piped directly to one of the distillation units. The reclaimed solvent went to a receiving tank from where it was pumped to bulk storage tanks. There were a total of six 800-gallon capacity blending/reclamation aboveground tanks. There was also an aboveground 1,700-gallon waste 1,1,1-trichloroethane tank and an aboveground 700-gallon waste perchloroethylene tank (References 4, 5, 12, 35, 41, 47, 48 and 52). The solvent recovery systems and associated waste storage tanks are still located in the Reclamation Area, although the recovery systems and storage tanks have been out of service since May 4, 1992.

AOC Start-Up Date:

No information regarding the start-up date of the Reclamation Area was found in the available file material.

AOC Closure Date:

The unit has been out of service since 1992 (Reference 52).

Waste Managed at AOC:

Perchloroethylene and 1,1,1-trichloroethane were distilled in the Reclamation Area. Still bottoms were generated during the reclamation process. The bottoms were removed from the stills and placed in 55-gallon drums which were labeled and transferred to the Concentrated Waste Treatment Plant (AOC 5) for storage (References 5, 12, 35 and 41).

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Release Controls:

The unit was located on a concrete floor equipped with a protective coating (References 5 and 35).

Release History:

Available file materials did not indicate that any releases have occurred in the unit.

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AOC Number: 4

AOC Name: Centralized Waste Storage and Transfer Facility

AOC Status: Low potential of release

AOC Description:

The Centralized Waste Storage and Transfer Facility was constructed in the immediate vicinity of the Concentrated Waste Treatment Plant (AOC 5). The unit provides for the storage and handling of wastes in containers and tanks within a fully enclosed building encompassing approximately 50,000 square feet. The building houses a total of sixteen (16) 6,000-gallon aboveground storage tanks; 20 container storage areas with segregated bays for separation of incompatibles; 10 staging areas; 4 container unloading stations; 4 truck pads; a forklift ramp; a variety of support equipment; computerized controls; and a control room.

Wastes are received from box trailers, drums or Transporter Tanks (AOC 5G). Loading and unloading takes place within fully contained areas with segregated piping to each specific storage/treatment tank. Each pump has the capability to pump from a tanker truck, a Transporter Tank (AOC 5G) or a drum. After storage in the Centralized Waste Storage and Transfer Facility, the waste is subsequently pumped either to the Concentrated Waste Treatment Plant (AOC 5) or sent to an off-site vendor by tanker truck (References 39, 42, 43, 50 and 52).

AOC Start-Up Date:

The unit became operational in June 1993 (Reference 52).

AOC Closure Date:

The AOC is currently operational (Reference 52).

Waste Managed at AOC:

The unit provides for the management of five groups of compatible waste in tanks and nine groups of compatible waste in containers (Reference 39).

The waste types stored in the container storage areas include:

- Acid and Chrome Solid/Waste
- Acid and Chrome Liquid
- Alkali Liquid
- Alkali and Cyanide Liquid
- Cyanide Solid
- PCB
- Oil/Solvent Paint
- TC Solid
- Non-Hazardous Zyglo
- Alkali
- Flammable Paint Solid
- Organic Solid

(References 42 and 52).

The following wastes are stored in the sixteen (16) aboveground 6,000-gallon capacity tanks:

- Acids/Oxidizer
- Hydrofluoric Acid
- Acids/Mineral
- Organic Acids, Fixers
- Chromium Solutions
- Alkali Treatable
- Alkali DWW
- Alkali Ammonia
- Cyanides
- Zyglo & Compatibles
- Water/Solvent
- Soluble Oils
- Treated Soluble Oil
- B1 Oil Tank
- B3 Oil/Solvents
- PCB Oils

(References 42 and 52).

Release Controls:

Every container storage area is separated by a curb. Fiberglass barriers are installed approximately four feet above the curb to prevent horizontal discharge into another storage area (References 42, 43 and 52).

The truck pads are at grade elevation with a slight ramp down into the building to provide spill containment for the contents of a full tank truck. Each tank has its own concrete containment large enough to hold the contents of the tank. The tanks are curtained to prevent leaks from spraying into adjacent containments. There is also an automatic alarm, computerized monitoring and cutoffs as part of the leak detection system (References 42, 43 and 52).

Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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AOC Number: 5

AOC Name: Concentrated Waste Treatment Plant

A. Concentrated Waste Treatment Building (CWTP-1)
B. Barrel Building/Container and Tank Storage Area (CWTP-2)
C. Tank Farm USTs (CWTP-3)
D. Drum/Transporter Storage Pad (CWTP-4)
E. Waste Storage Building (CWTP-5)
F. Hazardous Waste Storage Building (CWTP-6)
G. Transporter Tanks

AOC Status: Release has occurred

AOC Description:

The Concentrated Waste Treatment Plant (CWTP) is located near the northern end of the plant complex and treats much of the hazardous wastes generated at the Pratt & Whitney Aircraft Main Street facility or brought to the facility from other Pratt & Whitney sites. The treatment plant receives concentrated solutions for batch treatment, pH adjustment and chromium reduction. The unit is divided into six Container/Tank Storage Areas (CWTP-1, CWTP-2, CWTP-3, CWTP-4, CWTP-5, CWTP-6). Bulk tankers unload the 375-gallon Transporter Tanks (AOC 5G) at the Concentrated Waste Treatment Plant dump station where the effluent is piped into waste-specific Storage Tanks (AOC 5Ba) for batch treatment. Treatment occurs in the Concentrated Waste Treatment Plant Building (CWTP-1). The effluent is subsequently piped approximately one-half mile to a final wastewater treatment system at the Pratt & Whitney Colt Street facility. (References 1, 3, 5, 20, 41 and 42).

AOC 5A:

The Concentrated Waste Treatment Building (CWTP-1; AOC 5A) houses six aboveground batch type pre-treatment tanks. The unit consists of treatment tanks and a waste oil storage tank. The unit also managed a storage pad for storing containers of oxidizer waste, but the pad is no longer in use. There are currently two 2,000-gallon treatment tanks for acid/alkali waste, two 2,000-gallon treatment tanks for chromic acid and two 12,000-gallon treatment tanks for water soluble waste oil and coolants. Treated waste and wastewater from the batch treatment tanks discharge into the Colt Street treatment facility for final treatment. Approximately 12,000 gallons of waste oil are treated daily with a mixture of calcium chloride and ferrous sulfate to accomplish phase separation (References 27, 42, 47, 48 and 52).

The waste oil managed at the Concentrated Waste Treatment Building (CWTP-1) is pumped to the 1,250-gallon Waste Oil Storage Tank for high flash oils located outside the building, or to the Tank Farm USTs (CWTP-3) prior to off-site disposal. Water phases are discharged to the Colt Street wastewater treatment facility. The spent oils that contain less than 1,000 ppm of total halogenated organics are treated as non-hazardous and are recycled or burned for energy recovery off-site. The remaining oils containing greater than 1,000 ppm total halogens are treated and hauled off-site for disposal as hazardous wastes by a licensed hazardous waste vendor (References 25, 27, 41, 42, 47, 48 and 52).

AOC 5B:

The Barrel Building/Container and Tank Storage Area (CWTP-2) is a metal building measuring 60 feet long by 60 feet wide. AOC 5B consists of eight waste storage tanks and a transporter storage pad. It has three walls, a roof and a solid concrete floor with epoxy-coated secondary containment. The building is located southeast of the Concentrated Waste Treatment Building (CWTP-1). The entire unit has been out of service since July 1993. Dry, solid and liquid wastes were stored in 55-gallon drums, 20-gallon fiber drums and 275-gallon portable tubs in the unit. One thousand 55-gallon drums could be stored in the unit, with four drums to a pallet and stacked three pallets high. The unit was used as a pumping area where waste oils and solvents were pumped into their appropriate storage tank via a waste-specific portable Transporter Tank (AOC 5G). Compatible material was put into open tanks with containment, prior to batch treatment with concentrated solutions. The eight aboveground waste storage tanks included two waste cyanide tanks, two mixed waste acid tanks, one concentrated chrome tank, one mixed alkali tank, one waste oil/solvent tank and one waste zyglo tank. All had an approximately 4,000-gallon capacity (References 27, 41, 47 and 52).

A Transporter Storage Pad outside the Barrel Building/Container and Tank Storage Area (CWTP-2) was used for storage of the portable waste Transporter Tanks (AOC 5G). It measured 58 feet long by 16 feet wide, was equipped with a solid concrete floor and a roof, and was divided into three compartments. The unit held a maximum of 30 Transporter Tanks. The Transporter Tanks were used to move large quantities of wastes from the process areas to the waste storage areas (References 1, 3, 5, 11, 12, 18, 21, 27, 41, 42, 47 and 52).

AOC 5C:

The Tank Farm (CWTP-3) consists of three 10,000-gallon capacity, double walled underground storage tanks (USTs). The tanks were installed in 1988. The USTs store hazardous waste for less-than-90-days. At the time of a February/March 1994 CTDEP Inspection, only one of the USTs was in use. The other two were taken out of service in June 1993 (References 29, 42, 43, 48 and 52).

AOC 5D:
The Drum/Transporter Storage Pad (CWTP-4) stored hazardous wastes for greater-than-90-days. It is no longer being used. It was located adjacent to the east side of the Concentrated Waste Treatment Building (CWTP-1) (AOC 5A), measured 24.5 feet long by 18.5 feet wide and was equipped with a solid concrete floor and a roof. The unit could hold a maximum of 100 drums (55-gallon) stored on pallets or 16 Transporter Tanks (AOC 5G) (375-gallon each), or a combination of each, not to exceed 6,000 gallons (References 5, 11, 12, 42 and 52).

AOC 5E:
The Waste Storage Building (CWTP-5) was located east of the Concentrated Waste Treatment Building (CWTP-1), on the opposite side of the airport. Fifty-five-gallon drums as well as smaller containers were stored in the unit. There were also two aboveground 3,600-gallon PCB Waste Oil Storage Tanks (AOC 5E) at the building. The unit was used for cleaning of various materials; weighing and marking of containers; storage of new chemicals; storage of hazardous wastes in containers; repair of equipment or containers; storage of new containers; lab pack preparation; and PCB storage. The unit consists of a pre-engineered, weather tight, heated metal building with a concrete floor slab (References 39, 47 and 52).

AOC 5F:
The Hazardous Waste Storage Building (CWTP-6) stores hazardous wastes in containers or Transporter Tanks (AOC 5G) on pallets for less-than-90-days. The unit consists of a pre-engineered, weather tight, heated metal building with a concrete floor slab (References 39, 41, 42, 47 and 52).

AOC 5G:
The Transporter Tanks were used to move large quantities of wastes from the process areas to the waste storage areas. The acid Transporter Tanks were lined with acid resistant materials such as hypalon, whereas the alkali and cyanide Transporter Tanks were unlined. At the edge of the Barrel Building/Container and Tank Storage Area (AOC 5B), there were unloading platforms, each specifically allocated for either the acid, alkali or cyanide Transporter Tanks. When the Transporter Tanks were in place, the discharge valve was opened and the waste flowed to the appropriate Storage Tank (References 1, 3, 5, 11, 12, 18, 21, 27, 41, 42, 47 and 52).

AOC Start-Up Date:

The Tank Farm USTs (CWTP-3) (AOC 5C) were installed in 1988. No information regarding the start-up date of the other Concentrated Waste Treatment Plant sub-units was found in the available file material (Reference 48).

AOC Closure Date:

The Concentrated Waste Treatment Building (CWTP-1), the Waste Storage Building (CWTP-5) and the Hazardous Waste Storage Building (CWTP-6) are currently operational. The Barrel Building/Container and Tank Storage Area (CWTP-2) was taken out of service in July 1993. The Drum/Transporter Storage Pad (CWTP-4) has not been used since June 1993. Two of the USTs in the Tank Farm (CWTP-3) were taken out of service in June 1993 (Reference 52).

Waste Managed at AOC:

AOC 5A:
Waste kolene salts and waste acids were managed at the storage pad outside of the Concentrated Waste Treatment Building (CWTP-1) (AOC 5A) (Reference 27).

AOC 5B:
The following wastes were stored in the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B):

- Chemical Products (resins, epoxies, chemical coatings, cleaners, lubricants, absorbents and polymers)
- Laboratory Chemicals (acids, alkalies, salts, solvents, organics, inorganics)
- Alkali and Cyanide Wastes
- Waste Paints and Paint Solvents
- Kolene Salts (sodium and potassium salts)
- Waste-Wax/Chlorinated Solvents
- Acid Chrome and Carbon Wastes
- Waste Aluminum Oxide Powders
- Oil Waste
- Waste Solid Sulfur

(References 5, 12 and 27).

AOC 5C:
Hydraulic, cutting and lubricating oils that are used in various machining operations, which may be contaminated with organic solvents, were managed in the Tank Farm USTs (CWTP-3) (AOC 5C) (References 25, 29, 35, 47 and 48).

AOC 5D:
Waste alkalis, waste acids, waste X-ray fixers and PCB-containing materials were stored in the Drum/Transporter Storage Pad (CWTP-4) (AOC 5D) (References 5, 25, 27, 29, 35, 47, 48 and 52).

AOC 5E:
The Waste Storage Building (CWTP-5) (AOC 5E) manages various types of machine oils, as well as electrical waste oils containing PCBs in excess of 50 ppm. The unit primarily stores PCB waste and waste powders from the Plasma Spray Booths (AOC 12). Waste oil containing PCBs is stored in the two aboveground PCB Waste Oil Storage Tanks. Waste powders are shipped off-site for nickel recovery (References 25, 27, 47 and 52).

AOC 5F:
The Hazardous Waste Storage Building (CWTP-6) (AOC 5F) manages non-hazardous waste oil debris; hazardous waste flammable liquid; waste solvents; hazardous waste corrosive liquid; lab packs containing aerosol cans (D001, U121, U210, U228); batteries (D002, D006, D007, D008); and mercury wastes (D009, U151) (References 47 and 52).

AOC 5G:
Acid, alkali, cyanide and chrome wastes from plating fluids or degreasing solvents are stored in Transporter Tanks (AOC 5G) at the Transporter Storage Pad (AOC 5B) (References 5, 12 and 21).

Release Controls:

AOC 5A:

No information regarding release controls for the Concentrated Waste Treatment Building (CWTP-1) was found in the available file material.

AOC 5B:
The floor of the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B) is divided into five compartments, each with an epoxy-coated floor sloping to a containment pit. The sloped areas and submerged containment pits have a capacity of 1,900 gallons. Run-on cannot enter the unit since the floor elevation is at least three feet above ground level (References 5, 12 and 47).

The floor of the Transporter Storage Pad (AOC 5B) is divided into three compartments, each with a sloping floor to a one cubic foot pit. For each waste type, there is a metal catch pan measuring approximately three inches high, five feet long and three feet wide. The pans are intended to catch any spills and to segregate the wastes. There is also a common channel

that provides containment of any spillage coming from any of the four pipelines carrying acid, alkaline, cyanide or chrome wastes. Run-on is prevented from entering the building by the curbing around three sides of the building and a berm arrangement at the front of the pad (References 5, 12 and 21).

AOC 5C:
A single concrete reinforced slab foundation base was poured for all three tanks in the Tank Farm (CWTP-3) (AOC 5C). The tanks are placed on a bed of sand on top of the concrete base. There is also a continuous uniform concrete pad over the top of the three tanks (References 29, 48 and 52).

AOC 5D:
The floor of the Drum/Transporter Storage Pad (CWTP-4) (AOC 5D) is sloped to a containment pit underneath the floor. The containment area could hold 600 gallons of liquid (References 5, 12 and 47).

AOC 5E:
Secondary containment in the Waste Storage Building (CWTP-5) (AOC 5E) is provided by a concrete base and berm. A cleaning tank and containment pit are provided in the center bay of the structure. The three bays of the building provide containment for storage of waste in containers. The floor of the bays are pitched to three sumps formed of welded steel plates. The floor, sumps and curbs are coated with "Ceilgard 630". The PCB Waste Oil Storage Tanks are located within concrete containments large enough to contain 100% of each tank's volume. Spill control equipment (shovels, absorbent, overpack drums) is also located in the building (References 25, 27, 39, 47 and 52).

AOC 5F:
At the Hazardous Waste Storage Building (CWTP-6) (AOC 5F), there are three segregated storage bays with separate concrete containments, each with a curb, ramped entrance and a sump formed of welded steel plates. The floor, sumps and curbs are coated with "Ceilgard 630" (References 39, 41, 42, 47 and 52).

Release History:

Heavily stained soil was noted on the ground adjacent to the Concentrated Waste Treatment Plant (AOC 5) during a July 1985 CTDEP Inspection. The staining resulted from a 300-gallon waste oil spill which overflowed from the Waste Oil Storage Tank (AOC 5A) outside the Concentrated Waste Treatment Building (CWTP-1). Thirty-nine drums of soil had to be removed and analyzed (Reference 9).

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A 15,000-gallon and a 20,000-gallon tank at the Tank Farm (CWTP-3) (AOC 5C) were removed in September 1988. Contaminated soils and groundwater were identified. Approximately 100 cubic yards of contaminated soil was excavated and disposed of at the Town of East Hartford Landfill with the approval of CTDEP. Three new 10,000-gallon tanks were installed in the area (Reference 29).

There was an alkali waste solution spill on March 6, 1990 in the yard between the Concentrated Waste Treatment Building (CWTP-1) (AOC 5A) and the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B). The source of the alkali release was a ruptured underground line which connects an alkali waste storage tank to process treatment. Approximately five gallons of material was spilled onto the pavement surface. It was also suspected that additional solution (less than 100 gallons) was released into the ground in the vicinity of the underground line. The system was shut down and the paved area was cleaned using soda ash and water. Soil around the ruptured pipe was excavated and the damaged line repaired. All excavated soils were handled as hazardous waste (Reference 33).

There was a mixed waste acid spill at the Drum/Transporter Storage Pad (CWTP-4) (AOC 5D) on October 3, 1991. Approximately 100 gallons of acid leaked from a lined acid Transporter Tank (AOC 5G). The spilled acid was confined to the containment pad (Reference 44).

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AOC Number: 6

AOC Name: Dilute Wastewater Pre-Treatment Plant

AOC Status: Low potential of release

AOC Description:

The Dilute Wastewater Pre-Treatment Plant is located at the Concentrated Waste Treatment Building (CWTP-1) (AOC 5). Wastes are managed in either a chromium tank for chromium reduction, a cyanide tank for cyanide destruction or a wet well for pH adjustment. Following the pre-treatment, all effluent is piped approximately one-half mile to a final treatment system at the Pratt & Whitney Colt Street facility wastewater treatment system (References 1, 20 and 27).

AOC Start-Up Date:

No information regarding the start-up date of the Dilute Wastewater Pre-Treatment Plant was found in the available file material.

AOC Closure Date:

The AOC is currently operational.

Waste Managed at AOC:

The unit receives dilute rinsewaters and contact cooling waters from cleaning, polishing, electroplating and vapor blast lines. It also receives scrubber waters, including waste caustic/alkali rinsewaters; dilute cyanide waste streams; dilute hexavalent chrome wastewaters; and oily waters from the Soluble Oil Collection Sumps (AOC 7) (References 27, 41 and 48).

Release Controls:

No information regarding release controls was found in the available file material.

Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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AOC Number: 7

AOC Name: Soluble Oil Collection Sumps

AOC Status: Low potential of release

AOC Description:

Spent soluble oil is removed from metal machining equipment and placed into one of the two Soluble Oil Collection Sumps. The contents of the sumps are pumped to the Dilute Wastewater Pre-Treatment Plant (AOC 6) at the Concentrated Waste Treatment Building (CWTP-1) (AOC 5A). From here, the wastewaters are transferred to the Colt Street wastewater treatment facility, where the oil is skimmed and collected for vendor fuel blending or incineration (References 22, 25 and 48).

The sumps are each estimated to have a capacity of 100 gallons. The contents of the sumps are automatically pumped out when the sump reaches a certain level. One sump is located at the lower end of Willow Brook Pond and the other is located at Skimmer Shack, just below the cooling water discharge (References 22 and 48).

AOC Start-Up Date:

No information regarding the start-up date of the two Soluble Oil Collection Sumps was found in the available file material.

AOC Closure Date:

Available file material does not indicate that closure has occurred.

Waste Managed at AOC:

The sumps collect a skimmed oil/water mixture (Reference 48).

Release Controls:

No information regarding release controls was found in the available file material.

Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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AOC Number: 8

AOC Name: Concentrated Waste Sludge Impoundments

AOC Status: High potential for release

AOC Description:

There were six Concentrated Waste Sludge Impoundments, each measuring 55 feet long by 70 feet wide at the Pratt & Whitney Aircraft Main Street facility. The unlined units were used for partial dewatering and temporary storage of sludges generated at the Concentrated Waste Treatment Plant (AOC 5) (References 2, 11 and 14).

All waste was removed from the impoundments, processed through the Pratt & Whitney Colt Street treatment facility and disposed of in a permitted landfill in 1976. The units have been paved over (References 11, 14 and 20).

AOC Start-Up Date:

The units began operating in 1951 (Reference 11).

AOC Closure Date:

No waste was received in the impoundments after 1976 (References 11 and 14).

Waste Managed at AOC:

The impoundments received wastewater treatment sludges from neutralization of spent plating baths, cyanide destruction, reduction of hexavalent chromium and soluble oil treatment. The total quantity of waste handled is unknown (References 11 and 14).

Release Controls:

No information regarding release controls was found in the available file material.

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Release History:

The Concentrated Waste Sludge Impoundments were unlined; based on the operational history of impoundments it is likely that a release has occurred. However, no information regarding release issues from the impoundments could be found in the available file material (Reference 14).

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AOC Number: 9

AOC Name: Storm Drainage System

AOC Status: Release has occurred

AOC Description:

The Storm Drainage System discharges into Willow Brook. Catch basins located throughout the facility connect to the unit. Roof drainage from the Waste Storage Building (CWTP-5) and the Hazardous Waste Storage Building (CWTP-6) is piped directly into a catch basin connected to the Storm Drainage System. Catch basins are also located east of the Concentrated Waste Treatment Building (CWTP-1), south of the Barrel Building/Container and Tank Storage Area (CWTP-2) and northwest of the Tank Farm (CWTP-3). A new Storm Drain was recently constructed around the north, west and south sides of the new Centralized Waste Storage and Transfer Facility (AOC 4) (References 39, 41 and 42).

AOC Start-Up Date:

No information regarding the start-up date of the Storm Drainage System was found in the available file material.

AOC Closure Date:

The AOC is currently operational.

Waste Managed at AOC:

The Storm Drainage System manages stormwater runoff from several areas of the site (References 39 and 42).

Release Controls:

No information regarding release controls was found in the available file material.

Release History:

Approximately 700 gallons of nitric/hydrofluoric acid were spilled into the Storm Drainage System leading to Willow Brook Pond when a process tank was ruptured in an accident. The spill occurred on September 19, 1979 (Reference 11).

Approximately 200 to 300 gallons of Jet A fuel were spilled into the storm drain leading to Willow Brook when a pipe fitting a fuel line ruptured. The spill occurred on June 7, 1980 (Reference 11).

Approximately 300 gallons of Jet A fuel were spilled into the storm drain when a fuel system originating in the North Tank Farm (AOC 10B) was inadvertently over-pressurized causing an overflow of the vent pipes. The spill occurred on December 6, 1980 (Reference 11).

Approximately 30 gallons of sodium cyanide were spilled into the storm drain when a 55-gallon drum was pierced with a fork lift. The spill occurred on October 15, 1981 (Reference 11).

Approximately 160 gallons of ferric sulfate/hydrofluoric acid spilled into the storm drain when a discharge valve of a 375-gallon portable acid Transporter Tank (AOC 5G) was left partially open. The spill occurred on October 4, 1982 (Reference 11).

Approximately 220 gallons of Jet A fuel flowed in two floor drains in the X Test Oil House (AOC 2C) when the fuel pump seal for a burner rig leaked on April 10, 1991. The floor drains discharged to an ejector pit where water is normally collected from the Engine and Experimental Testing Facility. A small quantity of the fuel may have been pumped to Willow Brook Pond (Reference 40).

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AOC Number: 10

AOC Name: Tank Farms

A. North Tank Farm
B. South Tank Farm
C. Rentschler Field Tank Farm
D. Power House Tank Farm
E. Experimental Test Tank Farm
F. Executive Garage Tank Farm
G. Main Oil House Tank Farm

AOC Status: Release has occurred

AOC Description:

The Tank Farms contain or have contained underground storage tanks (USTs). The Tank Farms are located throughout the facility. Some of the Tank Farms which have not managed wastes are considered AOCs because of contamination found during their abandonment or removal (Reference 11).

- The North Tank Farm (AOC 10A) was the main product storage area at the facility. It consisted of 36 USTs ranging in size from 2,500 to 20,000 gallons. Only six abandoned tanks remain.

- The South Tank Farm (AOC 10B) is located adjacent to the Former Oil House (AOC 3). It consisted of twelve USTs.

- The Rentschler Tank Farm (AOC 10C) consisted of ten USTs.

- The Power House Tank Farm (AOC 10D) consisted of seven tanks ranging in size from 5,000 to 20,000 gallons.

- The Experimental Garage Tank Farm (AOC 10E) consisted of four USTs.

- The Executive Garage Tank Farm (AOC 10F) consisted of two 4,000-gallon USTs.

- The Main Oil House Tank Farm (AOC 10G) contains 14 USTs.

(References 11, 29, 47 and 48).

AOC Start-Up Date:

The start-up date for most of the units was in the 1970's. The North Tank Farm USTs were installed as early as 1929 and 1940 (Reference 29).

AOC Closure Date:

The majority of the units were removed or abandoned between 1985 and 1989. The Main Oil House Tank Farm (AOC 10G) is still operational (References 29 and 47).

Waste Managed at AOC:

The materials stored in the USTs were primarily solvents, fuels, oils, waste oils, reclaimed oils and waste fuels (References 11, 25 and 29).

- The North Tank Farm (AOC 10A) contained perchloroethylene; 1,1,1-trichloroethane; varsol; hydraulic oil; broaching oil; and other fluids.
- The salvage fuel tanks in the South Tank Farm (AOC 10B) stored waste jet fuels and solvents.
- Two of the Power House Tank Farm (AOC 10D) USTs managed waste oils in the late 1970's. The remaining tanks stored No. 6 fuel oil.
- The Executive Garage Tank Farm (AOC 10F) stored unleaded fuel and diesel fuel.
- The Main Oil House Tank Farm (AOC 10G) primarily stores oils, fuels and solvents. Two 10,000-gallon tanks stored salvage jet fuel, which was collected for off-site disposal.

No waste management information was available in the file material on the Rentschler Tank Farm (AOC 10C) and the Experimental Garage Tank Farm (AOC 10E) (References 25, 29, 46 and 47).

Release Controls:

No information regarding release controls was found in the available file material. Groundwater monitoring wells were installed at most of the Tank Farms when soil contamination was discovered after the removal of the USTs (Reference 29).

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Release History:

Contamination was discovered during the removal or abandonment of the USTs at each of the six Tank Farms, excluding the Main Oil House Tank Farm (AOC 10G). The majority of the UST removal was performed between the Fall of 1985 and the Summer of 1989 (Reference 29).

Thirty USTs were removed and six were abandoned-in-place at the North Tank Farm (AOC 5A). Approximately 200 cubic-yards of soil were excavated and disposed of at the Town of East Hartford Landfill with the approval of CTDEP. Approximately 700 cubic-yards of soil was removed and disposed of off-site as hazardous waste. Five groundwater monitoring wells were installed in the area (Reference 29).

Ten USTs were removed and two were abandoned-in-place at the South Tank Farm (AOC 10B). Approximately 700-cubic-yards of contaminated soil were excavated and disposed of at the Town of East Hartford Landfill with the approval of CTDEP. Six groundwater monitoring wells were installed (Reference 29).

Soil and groundwater became contaminated with hydrocarbons during the UST removal program at Rentschler Field Tank Farm (AOC 10C) in late 1985. Ten truckloads of contaminated soils were removed by Rollins Environmental Services and shipped to Louisiana for disposal by April 1, 1986. According to the available file material, an additional five to eight truckloads were expected to be necessary to complete the removal of contaminated soils. Another reference indicated that 150 cubic-yards of soil were removed and disposed of in Louisiana by Rollins Environmental Services (References 11 and 29).

Seven USTs were removed from the Power House Tank Farm (AOC 10D). Approximately 500-cubic-yards of soil contaminated with waste oils, unleaded fuel and diesel fuel were excavated from the Power House Tank Farm. The soils were disposed of at the Town of East Hartford Landfill with the approval of CTDEP. Four groundwater monitoring wells were installed (References 26 and 29).

Three USTs were removed and one was abandoned-in-place at the Experimental Test Tank Farm (AOC 10E). Approximately 350 cubic-yards of contaminated soil were excavated and disposed of at the Town of East Hartford Landfill with the approval of CTDEP. Four groundwater monitoring wells were installed (Reference 29).

Two USTs were removed from the Executive Garage Tank Farm (AOC 10F). Approximately 70 cubic-yards of soil contaminated with waste oils, unleaded fuel and diesel fuel were excavated from the Executive Garage Tank Farm. The soils were disposed of at the Town of

East Hartford Landfill with the approval of CTDEP. Two groundwater monitoring wells were installed (References 26 and 29).

Approximately 675 gallons of machine lubricating oils were spilled on the ground (600 gallons in the crushed stone area and 74 gallons in the pond oil skimmer area) when a 15,000-gallon UST was overfilled causing a discharge through the tank vent pipe. The spill occurred on June 15, 1985. It is not clear at which Tank Farm the release occurred (Reference 11).

A spill was reported on March 17, 1989. Soil and groundwater contaminated with jet fuel were noted during UST removal operations. The discharge was attributed to tank overfills and/or tank leakage. About 700 cubic yards of contaminated soil were placed into a single stockpile [Contaminated Soil Piles (AOC 11)]. The stockpile was located in an earthen bermed area on top of six millimeter polyethylene sheeting. The pile was also covered with the same sheeting to prevent wind dispersion and to deflect rain water run-off. It is unclear at which Tank Farm the spill occurred (Reference 11).

A spill was reported on April 13, 1989. Soil contaminated with jet fuel was observed during the removal of two 40,000-gallon steel USTs and two 25,000-gallon steel USTs. The discharge was attributed to tank overfills and/or underground pipe leakage. A Contaminated Soil Pile (AOC 11) was constructed for the 350 cubic yards of contaminated soil resulting from the spill. It is unclear as to which Tank Farm this information pertains, but it is expected in reference to the Experimental Test Tank Farm (Reference 11).

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AOC Number: 11

AOC Name: Contaminated Soil Piles

AOC Status: High potential of release

AOC Description:

The soil piles consisted of contaminated soils excavated from various locations at the site. The piles were located at the southern end of the airport adjacent to the property boundary. Seven separate Contaminated Soil Piles were present. The soil stockpiles were removed and disposed of by July 1989. A Closure Plan for the units was submitted on October 28, 1992 (References 27 and 49).

AOC Start-Up Date:

The start-up date for the Contaminated Soil Piles was in 1985 (References 11 and 27).

AOC Closure Date:

The units were removed and disposed of by July 1989 (Reference 49).

Waste Managed at AOC:

The soil piles stored debris and contaminated soil from a UST removal project. A March 1989 U.S. EPA Region 1 Inspection revealed that one of the piles was clean fill; another pile was concrete and non-contaminated construction debris; a third pile contained excavated clean soil; a fourth pile, approximately 10 cubic yards, was identified by Pratt & Whitney personnel as "probably being clean"; and a fifth soil pile measured approximately 150-cubic-yards and had a gasoline/fuel smell, most likely contaminated with jet fuel, according to Pratt & Whitney personnel. Waste analysis results for a sixth soil pile measuring approximately 400-cubic-yards indicated 1,700 ppb decane; 500 ppb nonane; 320 ppb tetrachloroethylene; 1,600 ppb 1,2,3-trimethyl benzene; 2,100 ppb 1,2,4-trimethyl benzene; 420 ppb toluene; and 530 ppb xylene. Waste analysis results for a seventh soil pile measuring approximately 250-cubic-yards showed 27,000 ppb tetrachloroethylene; 560 ppb 1,1,1-trichloroethane; 330 ppb 1,2-dichloroethylene; and 310 ppb 1,2,3-trimethyl benzene (Reference 27).

Release Controls:

The piles were partially covered with plastic and were surrounded by soil berms (Reference 27).

Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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AOC Number: 12

AOC Name: Plasma Spray Booths

AOC Status: Low potential of release

AOC Description:

There are eighteen wet scrubber Plasma Spray Booths. Waste powders generated at the units are stored in the Waste Storage Building (CWTP-5) (AOC 5E). The non-hazardous scrubber metal powders from the plasma spray machines are subsequently sent to the East Hartford Landfill (References 22, 41 and 52).

AOC Start-Up Date:

No information regarding the start-up date of the Plasma Spray Booths was found in the available file material.

AOC Closure Date:

The Plasma Spray Booths are currently operational.

Waste Managed at AOC:

Wastes generated from the operation of the Plasma Spray Booths resulted from the use of the following metal powders (Reference 22):

- Tungsten-Cobalt blend
- Nickel-Chromium blend
- Aluminum Oxide-Silicon Dioxide blend
- Cobalt-Chromium-Tungsten blend
- Cobalt-Chromium-Nickel-Tungsten blend
- Magnesium Oxide-Zircanium Oxide blend
- Aluminum Oxide-Titanium-Silicon Dioxide blend
- Chromium alloy
- Cobalt alloy
- Copper-Nickel blend
- Nickel-Aluminum blend
- Molybdenum

Release Controls:

No information regarding release controls was found in the available file material.

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Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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AOC Number: 13

AOC Name: Dust Collectors

AOC Status: Low Potential of release

AOC Description:

There are a total of 54 Dust Collectors at the facility (Reference 22):

- Eighteen Dust Collectors serve operations that grind, deburr or finish high-speed steel components, including both tools and engine parts.
- Eleven Dust Collectors serve grit blast operations which use aluminum oxide or steel shot powders to induce a finish on a variety of engine components.
- Four Dust Collectors serve operations that grind, deburr and finish steel and nickel alloy engine components.
- One Dust Collector serves an operation that cuts commercial grade plywood.
- Fourteen Dust Collectors serve operations that grind, deburr and finish steel and titanium alloy components.
- Six Dust Collectors serve operations that grind, deburr and finish steel/nickel/titanium alloy components.

The non-hazardous dust waste from machining operations is sent to the East Hartford Landfill (Reference 41).

AOC Start-Up Date:

No information regarding the start-up date of the Dust Collectors was found in the available file material.

AOC Closure Date:

The Dust Collectors are currently operational.

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Waste Managed at AOC:

Industrial wastes consisting of aluminum oxide; silicon carbide; steel shot powders; steel and nickel alloy; and steel and titanium alloy are managed in the Dust Collectors. No solvents, cyanides or sulfides are used in any of the processes served by any of the fifty-four Dust Collectors in the facility (Reference 22).

Release Controls:

No information regarding release controls was found in the available file material.

Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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AOC Number: 14

AOC Name: Trash Incinerators

AOC Status: Low potential of release

AOC Description:

There are three Trash Incinerators on-site. The maximum charging rates for the units range from 450 to 2,300 pounds per hour (Reference 11).

AOC Start-Up Date:

The start-up dates for the units range from 1980 to 1982 (Reference 11).

AOC Closure Date:

The units are currently operational.

Waste Managed at AOC:

The Trash Incinerators burn waste oil and dry refuse waste consisting of 90% paper and 10% scrap metal (Reference 11).

Release Controls:

No information regarding release controls was found in the available file material.

Release History:

The unit is designed to release emissions through stacks into the surrounding atmosphere. Emissions monitoring data was not included in the available file material. Available file materials did not indicate that emission standards have been exceeded.

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AOC Number: 15

AOC Name: Waste Wax/Solvent Tank

AOC Status: Low potential of release

AOC Description:

The Waste Wax/Solvent Tank was located in the Concentrated Waste Treatment Plant (AOC 5) area in the same building as the former liquid injection incinerator. The unit was intended to be used in conjunction with the incinerator and was connected to the incinerator via a feed line. However, the facility decided to close the incinerator. A Closure Plan for the Waste Wax/Solvent Tank was then submitted in November 1990 (References 27 and 36).

AOC Start-Up Date:

No information regarding the start-up date of the Waste Wax/Solvent Tank was found in the available file material.

AOC Closure Date:

The unit was closed and removed from the site in 1991 (Reference 41).

Waste Managed at AOC:

The unit stored wax/solvent still bottoms from the distillation of spent solvents, such as perchloroethylene and 1,1,1-trichloroethane. The wax/solvent mixture was heated to avoid precipitation (References 27 and 36).

Release Controls:

The Waste Wax/Solvent Tank had an air duct and a cover to minimize solvent evaporation. The tank was located in a pit equipped with a floor sump, which served as secondary containment (References 20 and 36).

Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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AOC Number: 16

AOC Name: Fire Training Area

AOC Status: Release has occurred

AOC Description:

Unlined pits at the facility were used in the unit for fire training exercises. No other description of the Fire Training Area was found in the available file material (Reference 29).

AOC Start-Up Date:

No information regarding the start-up date of the Fire Training Area was found in the available file material.

AOC Closure Date:

The Fire Training Area was demolished in 1983 (References 11 and 29).

Waste Managed at AOC:

Ignitable liquids were burned in the unlined pits used for fire training. It is believed that both virgin fuels and waste flammable liquids, including Jet A fuel, No. 2 fuel and lubricating oils, were used (References 11 and 29).

Release Controls:

No information regarding release controls was found in the available file material.

Release History:

When the unlined Fire Training Area was demolished, approximately 800-cubic-yards of soil contaminated with Jet A and No. 2 fuels, and small quantities of aircraft industrial lubricating oils was removed. The soils CTDEP approved the soils to be disposed at the Town of East Hartford Landfill in September 1983 (References 11 and 29).

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AOC Number: 17

AOC Name: Former Oil House

AOC Status: Low potential of release

AOC Description:

The Former Oil House was located inside the main factory building with the Reclamation Area (AOC 3). The unit was adjacent to the South Tank Farm (AOC 10C). Activities in the Former Oil House included the distribution of oils and solvents; oil blending and drum staging. Various used oils generated at the facility, including blend, hydraulic and cutting oils, were reclaimed at the unit. Blending oil mixtures were made using new and/or reclaimed oils according to Pratt & Whitney specifications. The various reclaimed oils were distributed to the different shops at the facility. If the reclaimed and/or blended oil met certain specifications, it was pumped into 55-gallon drums, labeled, sealed and stored for future use, or it was directed to their respective bulk storage tanks at the South Tank Farm (AOC 10C) next to the Former Oil House. Used oils that were not reclaimable were sent to the Concentrated Waste Treatment Plant (AOC 5) for proper disposal (References 5, 35, 41, 47 and 48).

AOC Start-Up Date:

No information regarding the start-up date of the Former Oil House was found in the available file material.

AOC Closure Date:

The unit has been out of service since approximately 1991, when it was replaced by the New Oil House Less-Than-90-Day Storage Area (AOC 2B).

Waste Managed at AOC:

Tank bottom waste was generated in the reclamation of used oils, including blend, hydraulic and cutting oils. The waste was emptied into 55-gallon drums, was sampled, and sent to the Concentrated Waste Treatment Plant (AOC 5) for proper disposal (Reference 48).

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Release Controls:

The unit was located on a concrete floor equipped with a protective coating (References 5 and 35).

Release History:

Available file materials did not indicate that any releases have occurred at the unit.

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ANNOTATED BIBLIOGRAPHY

1. RCRA Inspection Reports for Pratt & Whitney Aircraft Group. Prepared by P. Hassler, B. Devine, S. Frost and P. Zack, CTDEP. January 14, January 18 and January 19, 1982 and September 27, 1983.

   The January 1992 CTDEP report identifies several SWMUs and includes a table identifying volumes of wastes generated, stored, treated and received from other Pratt & Whitney Aircraft locations. The RCRA CTDEP Inspection report dated September 27, 1983 notes that low flash point non-halogenated wastes are being burned in the industrial boilers and that an incinerator is under construction.

2. Phone Record to James Wickwire, Pratt & Whitney Aircraft Group MD & CPD, from Mike O'Brien and Dennis O'Sullivan, caller. August 26, 1982.

   The reference included a Log Sheet for RCRA Part A Confirmations. It was noted that the facility has a liquid injection hazardous waste incinerator, two storage tanks and a Concentrated Waste Sludge Impoundment (AOC 8). The wastes managed in the units were discussed.

3. Trip Report for Pratt & Whitney Aircraft. Prepared by William Torrey, U.S. EPA Region 1. November 22, 1982.

   The report discusses the facility's waste management practices. It notes that the incinerator on-site will not be operational until the Air Compliance permits are received. Pratt & Whitney was advised to re-evaluate their RCRA Part A for waste types, process codes and amounts. It was also recommended that the facility submit a more specific distribution of maximum inventory at their selected container and tank storage areas.

4. Letter to William Torrey, U.S. EPA Region 1, from M.A. Andrew, Pratt & Whitney Aircraft. December 7, 1982.

   The reference identifies and discusses the Reclamation Area (AOC 3) which distills perchloroethylene and 1,1,1-trichloroethane, and reclaims various oils. Also included is a chart which lists all tanks which store or treat hazardous wastes.

5. Letter to U.S. EPA Region 1 from Robert Wise, Pratt & Whitney Aircraft. November 30, 1983.

   The reference includes the response to the request for information from U.S. EPA Region 1 dated August 22, 1983. The information request was regarding revisions to the RCRA Part B application. Also enclosed is a revision to the RCRA Part A application. Detailed information about various AOCs are given.

6. Facility Biennial Hazardous Waste Report for 1983 for Pratt & Whitney Aircraft. Signed May 24, 1984.

   The report describes the wastes managed at the facility during 1983. It also comments on waste streams and notes if they are chemically treated, reclaimed, incinerated or sent off-site for disposal.

7. RCRA CEI Report for Pratt & Whitney Aircraft. Prepared by M. McDaniel and P. Zack, CTDEP. June 5 and 21, 1984.

   The report notes a leak in one drum, a rupture in one drum and corrosion in three drums at the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B). It is also noted that the hazardous waste incinerator is still in its test burn phase due to difficulty in achieving compliance.

8. Letter to Robert J. Wise, Pratt & Whitney Aircraft, from George Dews, CTDEP. October 25, 1984.

   The reference includes correspondence between CTDEP and the facility regarding the Notice of Deficiency received on September 17, 1984. The facility was required to submit a proposal with necessary modifications to the liquid injection incinerator to bring it into compliance.

9. RCRA CEI Report for Pratt & Whitney Aircraft. Prepared by Michael McDaniel and Michael Cunningham, CTDEP. July 10 and 11, 1985.

   It was noted that there had been a 300-gallon waste oil spill from overflow of the Waste Oil Storage Tank (AOC 5Ab). Heavy soil staining was still evident near the Concentrated Waste Treatment Plant (AOC 5) after soil removal. It was noted that the facility had not put in a berm at the bottom of the loading ramp as requested during the June 1984 inspection. Several requests for information were made.

10. Letter to George Dews, CTDEP, from Andrew Hoffman, U.S. EPA Region 1. August 26, 1985.

    The reference includes comments on Pratt & Whitney's liquid injection incinerator trial burn. It also contains comments on the facility's RCRA Part B Permit Application.

11. Response to Corrective Action Information Request for Pratt & Whitney Aircraft. Prepared by Loureiro Engineering Associates. October 10, 1985.

    The reference includes a description of seven units, a listing of all the storage tanks and a discussion of seven releases that had occurred at the facility. Also included are appendices regarding results of soil testing at the Concentrated Waste Sludge Impoundments (AOC 8), the South Tank Farm (AOC 10C), the Experimental Test Tank Farm (AOC 10F) and the Fire Training Area (AOC 16).

12. Letter to George Dews, CTDEP, from John W. Casey, Pratt & Whitney. November 26, 1985.

    The reference contains the submittal of the revised RCRA Part B Application. The facility decided to proceed with proper closure of the liquid injection incinerator since it had never functioned properly and had never been fully operational. The unit was removed from the RCRA Part B Application.

13. Letter to George Dews, CTDEP, from Andrew Hoffman, U.S. EPA Region 1. January 9, 1986.

    The RCRA Part B Application for Pratt & Whitney was accepted as complete. The letter states that if the facility can demonstrate that the liquid injection incinerator never burned hazardous wastes, closure activities would not be required.

14. Memorandum from Arthur K. Wing, U.S. EPA Region 1. January 21, 1986.

    The reference states that Pratt & Whitney meets the criteria for environmental significance. It discusses the six Concentrated Waste Sludge Impoundments (AOC 8) used until 1976 and describes the wastes managed by the units.

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15. Letter to R.C. Weiss, Pratt & Whitney Aircraft Group, from Stephen W. Hitchcock, CTDEP. February 20, 1986.

    The reference gives the facility notice that their RCRA Part B Permit Application has been approved by CTDEP. Also included is a list of requirements to make the closure plan for the liquid injection incinerator complete.

16. Letter to George Dews, CTDEP, from John G. Whitehead, Pratt & Whitney. July 16, 1986.

    The reference includes the submittal of the revised Closure Plan for the liquid injection incinerator. A detailed incinerator description is given, as well as the permitting history and test burn history for the unit.

17. RCRA CEI Report for Pratt & Whitney Aircraft. Prepared by Michael McDaniel and Donna Seresin, CTDEP. September 29, 1986 and October 7, 1986.

    The report notes deficiencies in inspection schedule and log; placement of accumulation dates on containers in the X-ray Department; labeling of drums in Concentrated Waste Treatment Plant (AOC 5) along with aisle space in the area; and lack of posting of signs. The report noted that a new direct dump to tank system was being constructed.

18. RCRA Executive Summary for Pratt & Whitney Aircraft Group. Prepared by U.S. EPA Region 1. February 4, 1987.

    The reference summarizes the violations noted during the February 4, 1987 U.S. EPA Region 1 Inspection. It also describes units in the Concentrated Waste Treatment Plant (AOC 5) and recommends enforcement action with a penalty in the amount of $10,000 for the violations. The inspection report is also included.

19. Enforcement Summary for Pratt & Whitney Aircraft Group. Prepared by Thomas Michel and Stanley Chin, U.S. EPA Region 1. February 4, 1987.

    The history of state enforcement for the facility was summarized in the reference. The following violations were cited during the February 4, 1987 U.S. EPA Region 1 Inspection: failure to maintain adequate aisle space in the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B) and failure to maintain containers of hazardous waste in good condition in the unit. An Enforcement Order for these violations was issued with a penalty of $10,000.

20. RCRA CEI Report for Pratt & Whitney. Prepared by Hassler, Zimmerman and Donna Seresin, CTDEP. September 9 and 10, 1987.

    The facility was found to be out of compliance with hazardous waste determinations; inspection schedule and log; and actual storage, treatment and disposal requirements. It also gave a detailed description of facility processes, different AOCs and waste containers.

21. Letter to Stanley Chin, U.S. EPA Region 1, from Michael McDaniel, CTDEP. October 16, 1987.

    The reference includes the submittal of nine photographs taken by a Pratt & Whitney photographer during a RCRA CTDEP Inspection conducted on September 29, 1986. A description of each photograph is provided.

22. Letter to George Dews, CTDEP, from Arthur Caldwell, Pratt & Whitney Aircraft. November 2, 1987.

    The reference includes information about industrial wastes generated or managed by Dust Collectors (AOC 13), Plasma Spray Booths (AOC 12), vapor and grit blast machines and Soluble Oil Collection Sumps (AOC 7).

23. Letter to Robert J. Wise, Pratt & Whitney Aircraft, from Joel G. Blumstein, U.S. EPA Region 1. January 21, 1988.

    The reference includes the final signed Consent Agreement and Order approved by the Regional Administrator. The penalty was recommended to be reduced from $10,000 to $8,000 since the facility submitted information documenting its correction of the violations.

24. Letter to George Dews, CTDEP, and Merrill Hohman, U.S. EPA Region 1, from John G. Whitehead, Pratt & Whitney Aircraft. May 2, 1988.

    The reference includes the revised Closure Plan for the liquid injection incinerator. The revision contains the facility's response to CTDEP's comments received on February 2, 1988.

25. Combined Spill Prevention Control and Countermeasure (SPCC) Plan and Contingency Plan for Pratt & Whitney Aircraft. June 1988.

    The SPCC Plan is for oil pollution prevention and the Contingency Plan is for hazardous waste management. A detailed description of storage facilities and management procedures for petroleum products is provided.

26. Letter to David McKeegan, CTDEP, from Arthur C. Caldwell, Pratt & Whitney. October 24, 1988.

    The reference includes a spill report from October 5, 1988. During the excavation of USTs previously containing unleaded and diesel fuel, contaminated soil was found and removed from two separate sites. Approximately 70 cubic yards and 500 cubic yards of soil was excavated from the North Tank Farm and Powerhouse Tank Farm sites, respectively. The facility is requesting CTDEP approval to dispose of the soil at the East Hartford landfill.

27. RCRA Inspection Report for Pratt & Whitney Aircraft. Prepared by George Olson, U.S. EPA Region 1. June 2, 1989.

    The report summarizes the U.S. EPA Region 1 Inspection conducted on March 1 and 2, 1989. Numerous AOCs are described. Contaminated Soil Piles (AOC 11) are identified. Areas of non-compliance were noted in the Closure Plan, Waste Analysis Plan, Contingency Plan, Inspection Schedule & Log, personnel training program and in Land Disposal Restriction Rule requirements.

28. Closure Plan for the Burn-Zol Hazardous Waste Incinerator at Pratt & Whitney. July 28, 1989.

    The revised Closure Plan includes waste stream analytical data, refractory sampling locations and analytical data, and closure performance standards.

29. Supplement to the October 10, 1985 Response to Corrective Action Information Request for Pratt & Whitney. Prepared by Loureiro Engineering Associates. August 10, 1989.

    The reference discusses units from which there have been releases, including seven Tank Farms (AOC 10) and the Fire Training Area (AOC 16). Analytical results from groundwater monitoring wells and boring logs are included in the reference.

30. Public Notice from Stephen W. Hitchcock, CTDEP. August 3, 1989.

    The reference is a public notice of intent by Pratt & Whitney Aircraft to close the hazardous waste liquid injection incinerator. Waste streams proposed to be burned are described.

31. Letter to George Dews, CTDEP, from John G. Whitehead, Pratt & Whitney. August 17, 1989.

    The reference is an addendum to the Burn-Zol Hazardous Waste Incinerator Closure Plan. The information was requested in a joint comment letter from EPA/CTDEP dated August 1, 1989. A discussion of the wax/solvent mixture and cyanide solution waste streams is provided.

32. Letter to Julie Belaga, U.S. EPA Region 1, and Leslie Carothers, CTDEP, from Richard E. Atwood, Pratt & Whitney. December 5, 1989.

    The reference regards a nitric acid spill on December 5, 1989. Approximately 0.5 gallons of 50% dilute nitric acid spilled from the top hatch and disconnected hose of a tanker while the acid was being pumped out. The acid that spilled on the ground was neutralized with sodium bicarbonate to eliminate any additional contamination to the storm sewer system.

33. Letter to Julie Belaga, U.S. EPA Region 1, and Leslie Carothers, CTDEP, from Richard E. Atwood, Pratt & Whitney. March 8, 1990.

    There was an alkali waste solution spill on March 6, 1990 in the yard between the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B) and the Concentrated Waste Treatment Building (CWTP-1) (AOC 5A). Approximately five gallons of material was spilled onto a paved surface. It was also suspected that additional solution (less than 100 gallons) was released into the ground. Soil around a ruptured pipe was excavated and handled as hazardous waste.

34. Interim Report - Closure of Burn-Zol Incinerator. Prepared by Sugato Mitra, Sci-Tech, Inc. June 1990.

    The report details the Closure Plan for Pratt & Whitney's liquid injection incinerator. It includes drawings and photographs of the incineration system; a list of constituents requiring analysis; closure criteria; copies of daily logs; and a validation report.

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35. Letter to Lynn M. Clune, CTDEP, from R.D. Rosenberg, Pratt & Whitney. November 13, 1990.

    The reference includes the RCRA Part A Application and a very detailed description of the waste streams generated at the facility. Waste characteristics are given and facility maps are included.

36. Letter to Merrill Hohman, CTDEP, and Richard Barlow, CTDEP, from R.C. Weiss, Pratt & Whitney. December 11, 1990.

    The reference includes the Closure Plan for the Wax/Solvent Tank (AOC 15) located in the wax building. The Closure Plan was prepared by Loureiro Engineering Associates in November 1990. A detailed description of the Wax/Solvent Tank is provided.

37. Conceptual Design Report for Waste Storage Facility at Pratt & Whitney. Prepared by Loureiro Engineering Associates. January 14, 1991.

    The report provides the conceptual planning of a Waste Storage Facility for concentrated industrial wastes, selected dilute industrial wastes and PCB wastes. The proposed facility would replace most of the existing storage facilities at the Concentrated Waste Treatment Plant (AOC 5).

38. RCRA Part A Hazardous Waste Permit Application for Pratt & Whitney. January 31, 1991.

    Additional hazardous waste codes are listed for the wastes managed at the facility. The total capacities for the facility's tanks and containers were increased. An addendum is included regarding the installation of a rotary kiln incinerator.

39. RCRA Part B Permit Application for Pratt & Whitney. January 31, 1991.

    The reference provides a detailed description of the facility and the various AOCs. It also discusses the planned Centralized Waste Storage and Transfer Facility (AOC 4) and includes guidelines for waste barrel management.

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40. Letter to Julie Belaga, U.S. EPA Region 1 and Timothy Keeney, CTDEP, from Joseph Stramondo, Pratt & Whitney. April 16, 1991.

    The reference is a spill report for April 10, 1991. Approximately 220 gallons of Jet A fuel flowed in two floor drains in the X Test Oil House (AOC 2C) when the fuel pump seal for a burner rig leaked. The floor drains discharge to an ejector pit where water is normally collected from the Experimental Test Oil House (AOC 2F). A small quantity of the fuel may have been pumped to Willow Brook Pond.

41. RCRA Inspection Report for Pratt & Whitney. Prepared by P. Hassler and Clune, CTDEP. June 18, June 19, June 20, 1991.

    The reference describes numerous AOCs, including the Reclamation Area (AOC 3), the Tank Farm USTs (CWTP-3) (AOC 5C) building for waste oil treatment, the Dilute and Concentrated Wastewater Treatment Systems (AOC 6 and AOC 5) and the New Oil House (AOC 2B). The facility's waste tanks are discussed and a waste profile is given.

42. RCRA Part B Permit Application for Pratt & Whitney. September 5, 1991.

    A detailed description of the planned Centralized Waste Storage and Transfer Facility (AOC 4) is given. Closure Plans for the Wax/Solvent Storage Tank (AOC 15) and units in the Concentrated Waste Treatment Plant (AOC 5) are provided. The RCRA Part A Application is included.

43. Pratt & Whitney RCRA Part B Permit Application, Summary of Response to CTDEP Notice of Deficiencies. September 5, 1991.

    The revised applications are included with the reference. The facility responded in detail to the comments made by CTDEP on their RCRA Part A and Part B Applications.

44. Letter to Julie Belaga, U.S. EPA Region 1, and Timothy Keeney, CTDEP, from Pratt & Whitney. October 18, 1991.

    The reference includes a spill report involving approximately 100 gallons of mixed waste acid leaking from a lined acid Transporter Tank (AOC 5G). The spilled acid was confined to the containment pad.

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45. Letter to Julie Belaga, U.S. EPA Region 1, and Timothy Keeney, CTDEP, from Pratt & Whitney. February 24, 1992.

    Approximately 300 to 400 gallons of D006/D008 hazardous waste liquid containing diethylene triamine, ammonium chloride and sodium nitrite were spilled inside a tractor-trailer following a rollover accident on February 11, 1992. The liquid leaked from the trailer onto the asphalt. The spilled material was neutralized with sodium bicarbonate and drummed for disposal.

46. Letter to John Podgurski, U.S. EPA Region 1, from T.J. Lorette, Pratt & Whitney. April 28, 1992.

    The reference includes the submittal of revisions to the RCRA Part B Application for the Pratt & Whitney facility. It also includes the facility's response to comments made by CTDEP.

47. RCRA Inspection Report for Pratt & Whitney. Prepared by B. Devine, CTDEP, M. Jepson, CTDEP, and L. Clune, CTDEP. May 27 through 29, June 3 and June 10, 1992.

    The report describes in detail numerous AOCs at the facility. A waste profile is included as well as a table of vendors used by the facility for collecting various waste types.

48. Letter to Arnold Devine, CTDEP, from R.C. Weiss, Pratt & Whitney. July 15, 1992.

    The reference contains the submittal of additional information on seven specific topics requested by CTDEP at the closing conference of the RCRA CTDEP Inspection conducted on June 26, 1992. A few of the topics include: a written explanation of the general operation of the cookers in the Reclamation Area/Oil House (AOC 3); copies of the Professional Engineers Certifications for the USTs containing hazardous wastes; a written explanation of which salvage jet fuels are sent to Willigos Laboratory for burning as fuel; a written explanation of the function of the two skimmed oil holding tanks at Willow Brook Pond.

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49. Letter to David Nash, CTDEP, from R.C. Weiss, Pratt & Whitney. November 16, 1992.

    The reference regards the Closure Plan for the Contaminated Soil Piles (AOC 11) at the South Airport Area. The unit provided temporary storage for soils excavated from UST removals. The Contaminated Soil Piles were removed in July 1989.

50. Letter to Ronald Henson, Pratt & Whitney, from David Nash, CTDEP. February 17, 1993.

    The reference concerns the loss of interim status for existing RCRA units at Pratt & Whitney. CTDEP granted an extension of interim status for the units in the Concentrated Waste Treatment Plant (AOC 5), once the replacement facility, the Centralized Waste Storage and Transfer Facility (AOC 4) would be fully operational. The date was extended to June 14, 1993.

51. Notice of Violation for Pratt & Whitney. Issued by CTDEP. February 17, 1993.

    The Notice of Violation was for a CTDEP Inspection conducted on May 27, 1992.

52. RCRA Inspection Report for Pratt & Whitney. Prepared by David Stokes and Rob Garbauskas. February 23, March 2, 8, 9, 15 and 22, 1994.

    The report gave a thorough process description. It also discussed which areas at the facility are less-than and greater-than-90-day hazardous waste storage areas. Reference is also made as to which waste storage areas are still in service and which are not. A waste profile is included.

53. Non-Sensitive Cross-Module Information Report for Pratt & Whitney Aircraft Group. Prepared by U.S. EPA Region 1. October 11, 1994.

    The reference provides a listing of inspections conducted at the facility. It also includes a listing of violations received by the facility as well as enforcement actions taken against Pratt & Whitney Aircraft Group.

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Timeline of U.S. EPA Region 1 and CTDEP Site Visits

Date of Visit	Participants (Agency)	Purpose	Outcome/References
1/14/82 1/18/82 1/19/82	B. Devine (CTDEP) P. Hassler (CTDEP)	Compliance Evaluation Inspection (CEI)	A few containers were slightly corroded. Proper usage of DOT shipping names and UN/NA numbers were lacking in the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B) (Reference 1).
9/27/83	S. Frost (CTDEP) P. Zack (CTDEP)	Compliance Evaluation Inspection (CEI)	It was noted that low flash point non-halogenated solvents are burned in the industrial boilers; better aisle space was needed in the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B); and a contingency plan was not given to local authorities (Reference 1).
6/05/84	Michael McDaniel (CTDEP) P. Zack (CTDEP)	Compliance Evaluation Inspection (CEI)	One Class 1 violation was cited regarding TSD-other requirements. There were deficiencies noted in the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B), including leaks and corrosion of drums. The failure of particulates in the test burns for the liquid injection incinerator were also noted (References 7 and 53).

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Timeline of U.S. EPA Region 1 and CTDEP Site Visits

Date of Visit	Participants (Agency)	Purpose	Outcome/References
7/10/85 7/11/85	Michael McDaniel (CTDEP) Michael Cunningham (CTDEP)	Compliance Evaluation Inspection (CEI)	It was noted that there had been a 300-gallon waste oil spill from overflow of the Waste Oil Storage Tank (AOC 5A). Heavy soil staining was still evident near the Concentrated Waste Treatment Building (CWTP-1) (AOC 5A) after soil removal. Two Class 2 violations were cited (References 9, 19 and 53).
09/29/86 10/07/86	Michael McDaniel (CTDEP) Donna Seresin (CTDEP)	Compliance Evaluation Inspection (CEI)	One Class 1 violation was cited regarding TSD-other requirements. This included deficiencies in the inspection schedule and log, accumulation dates on containers in the X-ray department and labeling of drums in the Concentrated Waste Treatment Plant (AOC 5). Failure to contain adequate aisle space in the hazardous waste storage areas and to properly identify these areas was also noted (References 17 and 53).

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Timeline of U.S. EPA Region 1 and CTDEP Site Visits

Date of Visit	Participants (Agency)	Purpose	Outcome/References
2/04/87	Thomas Michel (U.S. EPA Region 1) Stanley Chin (U.S. EPA Region 1)	Compliance Evaluation Inspection (CEI)	Visible staining was noted on the floor of the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B) and adsorbent material was found in some areas. The facility was cited for failure to maintain adequate aisle space in the Barrel Building/Container and Tank Storage Area (CWTP-2) (AOC 5B) and failure to maintain containers of hazardous waste in good condition in the unit. An Administrative Order was issued with a penalty of $10,000. The amount was subsequently reduced to $8,000 after the facility provided information documenting its correction of the violations (References 18, 19, 23 and 53).
9/09/87 9/10/87	P. Hassler (CTDEP) Zimmerman (CTDEP) Donna Seresin (CTDEP)	Compliance Evaluation Inspection (CEI)	One Class 2 violation was cited regarding TSD closure/post-closure requirements. The facility was also found not to be in compliance with hazardous waste determinations; its inspection schedule and log; and actual storage, treatment and disposal requirements (References 20 and 53).

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Timeline of U.S. EPA Region 1 and CTDEP Site Visits

Date of Visit	Participants (Agency)	Purpose	Outcome/References
3/01/89 3/02/89	George Olson (U.S. EPA Region 1)	Compliance Evaluation Inspection (CEI)	Two Class 1 and two Class 2 violations were cited regarding TSD closure/post-closure requirements and TSD-other requirements (References 27 and 53).
8/09/90	George Olson (U.S. EPA Region 1)	Compliance Evaluation Inspection (CEI)	Four Class 1 and one Class 2 violation were cited regarding TSD closure/post-closure requirements; TSD land ban requirements; TSD-other requirements; and generator land ban requirements (Reference 53).
6/18/91 6/19/91 6/20/91	P. Hassler (CTDEP) Lynn Clune (CTDEP)	Compliance Evaluation Inspection (CEI)	One Class 1 and one Class 2 violation were cited regarding TSD-other requirements (References 41 and 53).
5/27/92 5/28/92 5/29/92 6/03/92 6/07/92 6/10/92 6/29/92	B. Devine (CTDEP) M. Jepson (CTDEP) Lynn Clune (CTDEP)	Compliance Evaluation Inspection (CEI)	Two Class 1 and one Class 2 violation were cited regarding TSD container requirements; TSD inspection schedule and log; and generator hazardous waste determinations (References 47, 51 and 53).

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Timeline of U.S. EPA Region 1 and CTDEP Site Visits

Date of Visit	Participants (Agency)	Purpose	Outcome/References
2/23/94 3/02/94 3/08/94 3/09/94 3/15/94 3/22/94	David Stokes (CTDEP) Rob Garbauskas (CTDEP)	Compliance Evaluation Inspection (CEI)	Areas of noncompliance included failure to have all hazardous waste determinations and operating records in order (References 52 and 53).